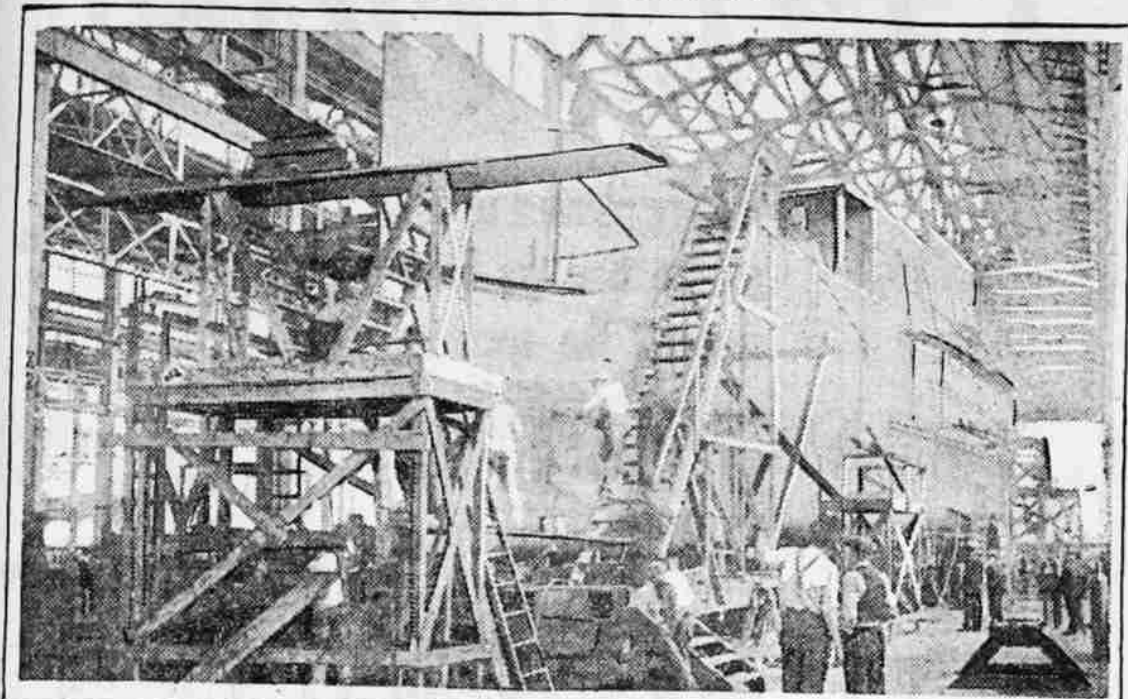


Trucks and
Tractors

AUTOMOBILE SECTION

Pleasure Cars
AccessoriesFIRST EXCLUSIVE PHOTO OF FORD'S
"EAGLE" PLANT

READY FOR THE WATER—AN "EAGLE" PRACTICALLY COMPLETED EXCEPT FOR PLACING HER MACHINERY.
Ford's submarine chaser plant was built in the record time of three months. It will soon be producing an "Eagle" day.

A WAR WEAPON
THE MOTOR TRUCK

Had come to railways and steamships. Just when their combined attack seemed hopeless to break the strongly entrenched forces of freight congestion, an ally appears. The motor truck is taking part in the battle.

The normal business increase of a prosperous country overwhelmed available freight capacities. A mistaken policy denied railroad necessary revenues to bring antedated facilities up to patent needs. Then came the world war which added enormous additional haulage to conditions already complicated. As follows when sound economic law is violated, the public is the victim. Mr. Common People is paying the penalty in delay and increasing prices.

Railways are overtaxed. So are steamships. Diversion of freight to the highways is the big alternative. Motor trucks are the only possible solution.

January 1, 1918, there were 400,000 trucks in the United States. It would be better for this country were the number five times as great.

On the basis of the first three months' production, there are indications that 275,000 trucks will be built in 1918. Fifty thousand of these will go into war use in Europe. Forty thousand will be used to replace trucks withdrawn by the law of wear and tear. This will mean not less than 185,000 new trucks for domestic use. The smallest of these trucks has a capacity of half a ton, the range progressing up to ten tons with the aid of the trailer.

The potential haulage capacity of the 450,000 trucks now in use can readily be understood. Allowing an average of ten tons a day per truck, an estimate which is conservative since many trucks in short haul work will move as much as 100 tons per day, we have a total of four and one-half millions of tons of freight moved per day.

The truck is a war need. It is also a peace need. In fact, it is not too much to say that the motor truck applied within peace uses becomes a weapon of warfare. Business must have trucks or bear expensive delays. Purveyors in war munitions must have motor trucks or they cannot live up to scheduled deliveries. The public must be on the receiving end of motor truck delivery if it is ever to get relief from expensive living costs.

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Motor trucks now move one-quarter as much tonnage as the freight cars of the United States. In city and rural districts, for the short haul or for the extended overland delivery, the truck is able infinitely to enlarge its scope of rapid delivery.

To win the war we must have production. The motor truck is an instrument for distributing that production. Congested traffic constitutes a war problem. There is no way to speed up production unless sources of communication are rapid and regular. This was proved almost tragically last winter. Insufficient transportation did more to delay our efficient entrance into the war than could a legion of Huns. In order to send to France urgently needed cargoes, the Fuel Administrator found it necessary to suspend all manufacturing for five days that he might free freight trains to take to the seaboard necessary coal for ships.

Food there must be, and since its mounting cost imposes a hardship on all, the greatest public interest in trucks centers in their use by farmers. The motor truck has come to the aid of the farmer at a time when he is sore pressed. It gives him the equivalent of man-power when he cannot hire farmhands. A truck will replace from two to four men. It will carry twice the load in half the time. It will make available for other production five acres of land whose crop is required to feed a horse for a year.

In fact, there would be no food problem if all horses could be retired from the farm. Those now used consume yearly the product of enough acreage to feed forty million people, or 40 per cent of our population. A truck will replace four horses. It is estimated that by the end of 1918 there will be 200,000 trucks used by farmers. These trucks will retire 1,200,000 horses. Farm statistics show five acres essential to the production of enough fodder for each horse; 1,200,000 horses retired means 6,000,000 acres freed for other needs. With all the horses in the United States retired, food acreage would be saved for four-tenths of our entire population.

It has been estimated that in view of the greatly increased production of food stuffs—wheat, rye, barley, oats, corn, beef, pork, mutton, eggs, milk, poultry and fruit—that 2,000,000 motor trucks could profitably be used between farms and markets. Only 450,000 motor trucks are now available for all lines of business. This is only 22 1/2 per cent of what could be applied to farms alone.

One Maryland farmer has found that his motor truck retires five horses formerly used for hauling. He is now planting wheat, corn and other crops suitable for human consumption on 35 acres of land previously used for oats and as pasture for horses.

It is not uncommon to see live stock going to market on any one of the 22 rural motor express lines now operating in Maryland out of Baltimore and out of Washington.

These trucks go to market with calves, turkeys, horses, hogs, sheep, cows, potatoes, meal, wheat, corn, apples, milk and eggs. On the return trip they carry dry goods, machinery and other products needed by farmers. Many of the latter have figures to show that the truck carries three times as much produce as the horse. The shortage of labor would have virtually eliminated milk shipments from this section at points calling for long hauls to the railroad, and there were days last winter when trucks were the only medium of transportation that brought food into Washington and Baltimore.

Every truck put into service brings the manufacturer nearer his market, brings the farmer nearer the consumer, brings the finished war order nearer the shipping point, facilitates rapid filling of orders, replaces much man power lost by withdrawal of soldiers, lessens the shortage of horses and restores gaps in organizations occasioned by deficiencies of labor, material and transportation.

There are instances in which the truck renders a four-way service, helping makers of war supplies. Such trucks haul away dirt excavated for the foundations of new buildings. They then deliver materials for constructing the building. Raw material for making the product is their next mission. Finally, the finished articles are carried to the point of delivery.

Where railroads have decreed that goods consigned in less than carload lots cannot be delivered in any specified time, the truck is serving a helpful purpose—adding also to break up congestion at freight yards, terminal points and warehouses.

An astonishing amount of tonnage

is being moved by motor trucks between Boston and New York, New York and Philadelphia, and Philadelphia and Baltimore. Several prominent tire companies are shipping a large part of their product from Akron to the seacoast by motor truck.

Heretofore motor trucks have been operated principally by private interests, such as merchants and manufacturers. Now, it may confidently be expected that motor trucks will be operated more in public service—by the post office within cities and on rural routes, by haulage companies in intercity express service, and by railroads, under control of the director of freight and express shipments.

The recent advance of 25 per cent in railroad freight rates will inevitably mean more truck use. The greatest immediate effect will be the diverting of much short haul freight to motor trucks, but there will also be an increase in long hauls.

Far-sighted users of motor trucks are being educated to possible economies in operation. Perhaps the most important of these is the return loads system. This project, made to prevent the empty running of trucks, was introduced and carried to success by the Highways Transport Committee of the Council of National Defense.

Manufacturers and merchants shipping to other cities use return loads system that their trucks may not come back empty. To get a return load they consult the telephone directory, call up the return loads bureau in the city to which they are going, and are put in touch with a truck owner or shipper in that city who has tonnage to be carried back.

All this concerns the public. It is important to the father and the family.

The head of the brood should look with new respect at the motor truck, huge but rapid, portentous but easily controlled. It makes it way through city streets. It is alike helping to win the war and making the family wage go a little further.

HOW AND WHAT MOTOR
TRUCKS ARE SAVINGS

"Motor trucks have been used for years to a limited extent," says L. L. Haines, local dealer in Chevrolet passenger cars and trucks, "but their full worth for short and long distant hauls was never appreciated until they were called upon to do what the railroads, steamships and the horse had failed to do. And they made good. They proved beyond all matter of doubt, that for all character of transportation needs, they are the most efficient, economical and speedy carriers available for all round commercial use."

"At the beginning of this year there were over 400,000 trucks in use in this country. Today motor trucks are moving one-quarter as much goods as all the freight cars on all our extensive railroad systems. There is scarcely a line of business in which they are not doing a major share of the work transporting men, materials and merchandise about cities, through the country and even across the continent at a saving in time and money which, when compared with other means of transportation, represents worthwhile economy."

"Nowhere else has the motor truck proved itself of more assistance than on the farm. By the end of the current year, there will be many thousands of trucks in use by farmers. These trucks will take the place of thousands of horses which in turn will release for agricultural purposes, millions of acres of land used exclusively today to raise feed for horses. One motor truck on a farm will replace from two to four men which means much, especially at this time when farm labor is so scarce. One motor truck will also carry twice the load of a horse-drawn wagon in half the time. One motor truck on a farm will make it a more enjoyable place to live, for it will do much to make farming easier and far more profitable."

"The motor truck has proved its right to a prominent place in every line of business endeavor where speedy, dependable and economical transportation is essential."

Articles of copper may be given a black finish by cleaning with emery paper, heating gently in a bunsen of spirit flame, then immersing for ten seconds in a solution of copper filings in dilute nitric acid and finally heating again.

KEEP HOME PROVIDED
WITH NECESSITIES
AND SUPPLIES

(By the A. Kissel)
The efficiency of the American business man and woman and the ability of the hundreds of thousands of workers now employed in speeding up America's wartime industrial work, depends on the comfort and happiness of their home. If the source of supply of necessities for household consumption and comfort is shut off, diminished or even delayed, the effect on the public is bound to show in decreased efficiency.

The coal situation is a case in point. Last winter I understand that it was due just as much to a lack of transportation equipment as to a lack of available coal that prevented fuel being delivered. If other household necessities were held up or delayed in a similar manner, the moral effect would be just that much greater. Hence the necessity of maintaining the efficiency of the American man and woman by introducing and putting into operation those plans that insure uninterrupted delivery of goods, supplies, commodities and necessities into the home.

The adaptability and dependability of the motor truck has been proven. It is the logical and most economical method of transportation. There is not a commodity grown, produced or manufactured that has not been successfully hauled and delivered by the motor truck. In thousands of instances the motor truck is proving the better transportation method. The retailer can deliver more goods in less time, or can extend his area of delivery, without increasing his overhead expense. The manufacturer can be independent of other means of transportation, can maintain his own schedule and can make his transportation department fit his production. Communities, through co-operative transportation lines, can not only throw off the yoke which they formerly had to bear, when depending on other transportation methods, but can insure themselves against non-delivery of badly needed supplies and goods.

As branch lines for the railroads, the motor truck cannot be improved upon, where it is needed right now in the United States for more trucks than can be manufactured. The question therefore is to make the best use of the country's present motor truck equipment, and this can be done only by co-operative methods and co-ordinated plans.

The same manner in which the truck came to the railroad's rescue in helping clear congested freight depots can be applied to retail haulage and delivery. The overland transportation companies, the Return Loads Bureaus, and the Rural Motor Express Lines—all of these activities are gaining in momentum every day and, in fact, the country will undoubtedly have a network of these sources, of supply from the producer to the point of distribution. The manufacturer and producer are doing their share to relieve the transportation problems of the country, and it is now squarely up to the merchants, retailers and wholesalers in every community to carry on the work of getting the goods and supplies from the point of distribution into the home.

This great country of ours is made up of cities and towns. Each community is a little country or nation in itself and it is only by the people of these communities working at a hundred percent efficiency pitch can the nation as a whole meet its obligations in an efficient manner.

Co-operative action by merchants and retailers of every community should be made without hesitation or delay. Without such help, the government, if the need arises, will undoubtedly pass laws and regulations. Uncle Sam is out to protect the American home by keeping it supplied, so that his millions of workers can keep up the industrial pace that will eventually win the war. He has said in so many words that efficient transportation in the cities and in every community is a patriotic movement and as such, should be started without unnecessary loss of time.

Some Startling Results From
Investigations.

To show his good faith and to help start the ball rolling, he has been investigating the problem of combining local delivery systems, and consolidating all the delivery equipment now operated by department stores and others requiring a delivery service. His object is to handle all deliveries by motor truck, via a centralized system, to reduce the cost of delivery, so that in place of the "butcher, and baker, and candlestick maker" delivering goods to the same house and on the same day via different haulage equipment, and consuming the time and labor of many drivers and helpers, one truck and one driver will bring the parcels for all three on a single trip.

The result has been that sweeping investigations in all parts of the country have been made and assisted by prominent retail and wholesale merchants.

Such investigations have proven that, through the practice of special deliveries, half loads and unnecessary deliveries, the proportion of equipment for retail delivery requirement are unnecessarily high—that stores could well get along with less equipment, and of course, with less men and still render a delivery service to customers which would not in any way be inconvenient.

From this investigation, the Board has recommended to all retail merchants, the reduction of regular deliveries to one per day over each route and the elimination of special deliveries.

Retail stores that have adopted this recommendation have effected a great saving in their delivery expense and equipment. If action is taken by the government, necessitating every retail establishment in the country doing likewise, there would be plenty of motor truck equipment to help solve every community's transportation problems, whether within the city limits,

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its, the agricultural and dairy areas, or to connect with the suburban districts or the cities next door.

To my mind, the next step after the elimination of unnecessary deliveries, should be the forming of co-operative delivery systems among the retailers of every community. This would not only reduce the individual delivery expense of each concern participating, but it would, at the same time, relieve men and equipment for other work. This in itself is of vital importance, because the labor situation is such that every available man not absolutely necessary in the regular business channels should be released to join the men in the factories and industries doing government work. It is of more importance to a community for its men to apply their time to producing that which the community needs, than to be wasting time on work that can be saved if a more concentrated delivery organization is inaugurated. Recently six retail stores in a southern town of approximately fifteen thousand inhabitants formed a co-operative delivery system, with the result that instead of using half a dozen trucks and as many men, one truck and one man was found to be sufficient. The five trucks thus relieved were put to work in transporting other supplies that had been held up.

Similar results, I understand, have been secured by not only merchants associations, but by private individuals who have contracted to handle the merchants' deliveries at not only a saving to the merchants, but also proving a profitable financial venture to themselves.

Result, the merchant pays a lower price for delivering his goods—his customers do not have to wait for separate delivery of different articles—less equipment and labor is used, releasing men and trucks needed for more important work, and with the substitution of motor trucks for horse-drawn vehicles, greater economy and dependability were assured.

Read the Classified Ads.
Read the Classified Ads.INDIA AUTOMOBILES
NOT VERY NUMEROUS

Interesting information concerning automobile matters in India is given by A. T. Gillespie, representative of the United States Tire company in the Far East, who has been a recent visitor in this country.

Mr. Gillespie points out that though India has a population three times as great as the United States, it has fewer automobiles than are to be found in the city of San Diego. At the present time there is very little touring out of the larger centers, because it is necessary to drive through miles of crowded villages before anything like a clear road is reached.

In a town like Calcutta, in which there are more than 6000 machines, not more than a half dozen cars leave the city for week-end trips. The use of the motor car is restricted largely to business purposes and travel about the city.

"Labor is cheap," says Mr. Gillespie, "and it is interesting to note the transition of the 'syce' or native groom into a regular chauffeur. These boys formerly cared for their master's horse—ran along behind wherever the master would go and, no matter how far the journey, they be on hand to hold the stirrup when the horse and rider arrived at their destination. In many cases where the horse has been discarded for the motor car these boys have proved quite adept for the principal reason that, not knowing anything about the mechanism of the car, they leave it alone. They cost about eight dollars a month and get along better with a car than the most intelligent workman whose aim seems to be to take things apart and put them together so that they won't work."

"Air pressure has been a nightmare to tire dealers in India. The average

pressure is about thirty to forty pounds regardless of the size of the car. Power pumps in the past have been entirely unknown. In one case where we installed an automatic pump the native like the idea so well that they put the required pressure in a lot of old tires that had been running underinflated for months previous. We sold an outfit of this kind to one dealer and a week later tried to install one with his neighbor across the street. He objected very strenuously to our modern methods and pointed out that the other men blew up about half the tires he inflated. Notwithstanding this, the power pumps meet with the approval of drivers who find this method of inflating their tires much to their liking.

"India boasts of one of the longest continuous roads in the world, about 2,000 miles, and there still remains stretches of roadway built by Alexander at the time of his conquest. As a rule the roads are fairly level and smooth, paved in many places with laterite or crushed marble stone. The bulk of the traffic is carried by means of heavy, cumbersome ox carts, with wheels about six feet in diameter and roofed over like houses. These carts are built strong enough to withstand the onslaught of speedsters and a collision with one of these generally lays up the car while the cart goes on its way."

One of the shortest radius arch dams for its height yet built is nearing completion on the Cimarron river, New Mexico. The Eagle's Nest dam is 140 feet high, 30 feet of which is below the river bed, and has a radius of 155 feet. It is eight feet wide at the top and forty-six feet at the base.

The distillation of wood from India's forests is an industry that must one day be taken up seriously. The demand for oils and tar in India is steadily increasing.

Castor oil has been found to be a very satisfactory lubricant for aeroplanes.

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